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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,047	08/17/2001	Shin Asari	4351	4504

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EXAMINER

CROWELL, ANNA M

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,047

Applicant(s)

ASARI ET AL.

Examiner

Michelle Crowell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 4-6 have been renumbered claims 6-8.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575).

Referring to Figure 1, the admitted prior art discloses a plasma film-forming apparatus which includes a film forming chamber 10 in which a substrate 9 is arranged, a film-forming gas introducing pipe 13 connected to a supply source of a film-forming gas at a first end thereof, a shower plate 5 having numerous holes and interposed between a second end of the film-forming gas introducing pipe and the film-forming chamber, a film gas exciting means 4, 8 for exciting film-forming gas introduced through the numerous holes of the shower plate into the film-forming chamber to form a film on the surface of the substrate with a chemical reaction, a radical producing means 11 which excites a cleaning gas and produces radicals, and a cleaning-gas introducing means 13 for introducing the cleaning gas containing the free radicals into the film-forming chamber.

The admitted prior art fails to teach the cleaning-gas introducing means communicating directly with the film-forming chamber without passing through the shower plate.

Referring to Figure 1, 3, 4 and column 8, line 39 –column 9, line 49, Yin et al. teaches a cleaning gas supply system 220, a cleaning-gas introducing means 235 that provides a cleaning gas directly into the chamber 30 without passing through a shower plate. The activated cleaning gas is introduced into the etching chamber to clean the etch residue on the walls and components of the etch chamber. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the admitted prior art with a cleaning gas introducing means communicating directly with the film-forming chamber without passing through a shower plate as taught by Yin et al since

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this a suitable way to introduce a cleaning gas and this would clean the residues on the walls and other components inside a chamber.

In addition, it is well settled that the intended uses of and the particular process gases (i.e. film-forming or cleaning) used in a film-forming apparatus have no significance in determining Patentability of apparatus claims. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) as applied to claim 1 above, and further in view of Li et al. (U.S. 5,772,771).

The teachings of the admitted prior art in view of Yin et al. are discussed above.

Admitted prior art in view of Yin et al. fails to show cleaning-gas introducing pipes located on opposite walls.

Referring to Figure 1 and column 3, lines 21-46, Li et al. shows nozzles 34 arranged on opposite walls. Process uniformity is improved by providing process gases to a plurality of positions. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing pipes of

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admitted prior art in view of Yin et al. on opposite walls as taught by Li et al since this would ensure that the cleaning gases uniformly cover the interior of the chamber.

6. Claim 3 (depending on claim 1) is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) as applied to claim 1 above, and further in view of Yamamoto et al. (U.S. 4,242,595).

The teachings of the admitted prior art in view of Yin et al. are discussed above.

Admitted prior art in view of Yin et al. fails to teach the cleaning-gas introducing means is coated with polytetrafluoroethylene.

Referring to column 5, lines 41-47, Yamamoto et al. teaches that it is well-known to coat parts exposed to activated gases such as an activated gas conduit 107, a manifold pipe 108, a nozzle pipe 127 (cleaning-gas introducing means), and a reaction chamber 109 with Teflon (polytetrafluoroethylene). This prevents these parts exposed to activated gases from corroding. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing means of admitted prior art in view of Yin et al. with the Teflon as taught by Yamamoto et al. since this would prevent the cleaning-gas introducing means from corroding, thereby extending the service life of the parts.

7. Claim 3 (depending on claim2) is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) and Li et al. (U.S. 5,772,771) as applied to claim 2 above, and further in view of Yamamoto et al. (U.S. 4,242,595).

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The teachings of the admitted prior art in view of Yin et al. and Li et al. are discussed above.

Admitted prior art in view of Yin et al. and Li et al. fails to teach that the cleaning-gas introducing means is coated with polytetrafluoroethylene.

Referring to column 5, lines 41-47, Yamamoto teaches that it is well-known to coat parts exposed to activated gases such as an activated gas conduit 107, a manifold pipe 108, a nozzle pipe 127 (cleaning-gas introducing means), and a reaction chamber 109 with Teflon (polytetrafluoroethylene). This prevents these parts exposed to activated gases from corroding. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing means of admitted prior art in view of Yin et al. and Li et al. with the Teflon as taught by Yamamoto et al. This would prevent the cleaning-gas introducing means from corroding, thereby extending the service life of the parts.

Response to Arguments

8. Applicant's arguments filed July 7, 2003 have been fully considered but they are not persuasive.

9. With respect to the Yin et al. (U.S. 6,379,575), Li et al. (U.S. 5,772,771), and the Yamamoto et al. (U.S. 4,242,595) references, applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (703) 305-1956. The examiner can normally be reached on M-F (8:00 - 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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AMC *gme*
September 9, 2003

Luz Alejandro
LUZ ALEJANDRO-MULERO
PRIMARY EXAMINER